REMARKS

In view of the following remarks, the Examiner is requested to withdraw the rejections and allow Claims 28-59 and 61, the only claims pending and currently under examination in this application.

Claim Rejections – 35 U.S.C. § 103

Claims 28-36, 38-44, 46-48, 50-52, 54-59, and 61 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Anderson et al. (U.S. Patent No. 5,186,824), in view of Schleifer (A) (U.S. Patent No. 6,077,674) or Schleifer (B) (U.S. Patent No. 6,309,828).

In order to meet its burden in establishing a rejection under 35 U.S.C. § 103 the Office must first demonstrate that the combined prior art references teach or suggest all the claimed limitations. *See Pharmastem Therapeutics v. Viacell et al.*, 2007 U.S. App. LEXIS 16245 (Fed. Cir. 2007) ("the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make [every element of] the composition or device, or carry out the [entire] claimed process, and would have had a reasonable expectation of success in doing so," (*citing KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007))); *and see Omegaflex, Inc. v. Parker-Hannifin Corp.*, 2007 U.S. App. LEXIS 14308 (Fed. Cir. 2007) ("[t]he Supreme Court recently explained that 'a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art,'" (*citing KSR Int'l Co.* at 1741)); *and see Dystar Textilfarben GmbH v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006) ("[once] all claim limitations are found in a number of prior art references, the factfinder must determine '[w]hat the prior art teaches, whether it teaches away from the claimed invention, and whether it motivates a combination of teachings from different references,'" (*citing In re Fulton*, 391 F.3d 1195, 1199-1200 (Fed. Cir. 2004))).

In making this rejection, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the polymers synthesized by Anderson to the further step of addressable array

fabrication taught by Schleifer (A) and/or Schleifer (B) (i.e., addressable immobilization of pre-synthesized polymers), and therefore arrive at the claimed invention.

The Examiner's rejection is based on the assumption that the claims read on a method in which polymers are pre-synthesized and then deposited at specific locations to produce an addressable array.

The Applicants respectfully disagree with the Examiner's interpretation of the claims. The subject claims include the steps of:

> (a) contacting a substrate comprising a plurality of addressable features comprising a surface attached blocked nucleoside monomer blocked with a blocking group, or a surface attached polymer blocked with a blocking group, with a deblocking fluid to remove the blocking group, thereby generating an unblocked attached nucleoside monomer or polymer;
> (b) displacing the deblocking fluid from the substrate surface comprising the attached unblocked nucleoside monomer or polymer with a purging fluid; and
> (c) reacting the attached unblocked nucleoside monomer or polymer with another blocked nucleoside monomer to produce said addressable array of oligonucleotides.

It is submitted that the wording of the above three steps clearly makes the claims directed to an *in situ* fabrication process in which an addressable array is produced by synthesizing polymeric ligands directly on the surface of a solid support in manner that sequentially adds the monomeric units one at time.

Anderson does not teach or suggest the *in situ* production of an addressable array of oligonucleotides. Nor does the Examiner allege that Anderson teaches or suggests an *in situ* process. Accordingly, Anderson is fundamentally deficient in failing to teach or suggest an *in situ* fabrication process as claimed.

Since Schleifer (A) and Schleifer (B) were cited by the Examiner solely for the purpose of an alleged teaching of making an addressable array by depositing pre-made polymers onto a surface of a support, these supplemental references fail to make up for the fundamental deficiencies in Anderson.

In fact, because Schleifer (A) and Schleifer (B) teach one to deposit pre-made polymers onto a surface, they teach away from producing the polymers on the surface *in situ*.

As such, Claims 28-36, 38-44, 46-48, 50-52, 54-59, and 61 are not obvious under 35 U.S.C. § 103(a) over the cited combination of Anderson, in view of Schleifer (A) or Schleifer (B). Therefore, the Applicants respectfully request that this rejection be withdrawn.

Alternatively, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the displacement fluid synthesis steps of Anderson to the polymer synthesis of either Schleifer (A) or Schleifer (B). As set forth above, Anderson, Schleifer (A), and Schleifer (B) do not teach or suggest the *in situ* production of an addressable array of oligonucleotides because Schleifer (A) and Schleifer (B) disclose depositing pre-made polymers onto a surface. Accordingly, this rejection may be withdrawn.

Claim 37 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Anderson et al. (U.S. Patent No. 5,186,824), in view of Schleifer (A) (U.S. Patent No. 6,077,674) or Schleifer (B) (U.S. Patent No. 6,309,828), and further in view of Greene et al. (*Protective Groups in Organic Synthesis*, 3rd ed., Wiley and Sons, New York, 1999, page 106).

As discussed above, Anderson, Schleifer (A), and Schleifer (B) do not teach or suggest the *in situ* production of an addressable array of oligonucleotides as claimed. Greene was cited solely for its alleged disclosure that the purging fluid density is higher than the deblocking fluid density. As such, Greene fails to remedy

the deficiencies discussed above. Accordingly, Claim 37 is not obvious over the cited combination of Anderson, in view of Schleifer (A) or Schleifer (B), and further in view of Greene, and the Applicants respectfully request that the rejection be withdrawn.

Claim 45 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Anderson et al. (U.S. Patent No. 5,186,824), in view of Schleifer (A) (U.S. Patent No. 6,077,674) or Schleifer (B) (U.S. Patent No. 6,309,828), and further in view of Mian et al. (U.S. Patent No. 6,319,469).

As reviewed above, Anderson, Schleifer (A), and Schleifer (B) do not teach or suggest the *in situ* production of an addressable array of oligonucleotides as claimed. As Mian was cited solely for a disclosure of flow rates, Mian fails to make up the deficiencies discussed above. Accordingly, Claim 45 is not obvious over the cited combination of Anderson, in view of Schleifer (A) or Schleifer (B), and further in view of Mian, and the Applicants respectfully request that the rejection be withdrawn.

Claim 49 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Anderson et al. (U.S. Patent No. 5,186,824), in view of Schleifer (A) (U.S. Patent No. 6,077,674) or Schleifer (B) (U.S. Patent No. 6,309,828), and further in view of Gamble et al. (U.S. Patent No. 5,874,554).

As explained above, Anderson, Schleifer (A), and Schleifer (B) do not teach or suggest the *in situ* production of an addressable array of oligonucleotides as claimed. As Gamble was cited solely for this disclosure of pulse-jet deposition, Gamble fails to make up the deficiencies discussed above. Accordingly, Claim 49 is not obvious over the cited combination of Anderson, in view of Schleifer (A) or Schleifer (B), and further in view of Gamble, and the Applicants respectfully request that the rejection be withdrawn.

Claim 53 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Anderson et al. (U.S. Patent No. 5,186,824), in view of Schleifer

(A) (U.S. Patent No. 6,077,674) or Schleifer (B) (U.S. Patent No. 6,309,828), and further in view of Farr (U.S. Patent No. 3,969,250).

As explained above, Anderson, Schleifer (A), and Schleifer (B) do not teach or suggest the *in situ* production of an addressable array of oligonucleotides as claimed. As Farr was cited solely for the asserted teaching of the stratification of liquids using a pressure gradient, Farr fails make up for the above deficiencies. As such, Claim 53 is not obvious over Anderson, in view of Schleifer (A) or Schleifer (B), and further in view of Farr, and this rejection may be withdrawn.

CONCLUSION

In view of the amendments and remarks above, the Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone Bret Field at (650) 327-3400.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-1078.

Respectfully submitted,

Date: September 24, 2007

By: _____
Rudy J. Ng
Registration No. 56,741

Date: September 24, 2007

By: _____
Bret E. Field
Registration No. 37,620

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

F:\DOCUMENT\AGIL\189 (10031551-1)\10031551-1 (AGIL-189) ROA of 07-23-07.DOC